

**IN THE CLAIMS:**

Please ADD claims 48 - 62 as follows:

- - 48. A thermal management method for a computer system having a microprocessor and a fan, the microprocessor performing operations at a rate determined by a clocking frequency, said thermal management method comprising the acts of:

monitoring the temperature of the microprocessor;

comparing the temperature of the microprocessor to first and second temperature thresholds, the second temperature threshold being greater than the first temperature threshold;

reducing the clocking frequency when the temperature of the microprocessor is greater than the first temperature threshold; and

activating the fan subsequent to said reducing of the clock frequency when the temperature of the microprocessor exceeds the second temperature threshold.

- - 49. A method as recited in claim 48, wherein the fan is activated only after the reduction in the clocking frequency does not operate to control thermal conditions of the microprocessor.

- - 50. A method as recited in claim 48,

wherein said reducing the clocking frequency reduces the clocking frequency in predetermined amounts, and

wherein said reducing the clock frequency further reduces the clocking frequency when ~~the~~ a prior reduction in the clocking frequency is not able to prevent the temperature of the microprocessor from continuing to increase.

*31.* A computer system, comprising:

a microprocessor, said microprocessor operating to perform operations in accordance with a clocking frequency;

a fan;

a temperature sensor thermally coupled to said microprocessor, said temperature sensor provides a temperature indication corresponding to the temperature of said microprocessor; and

a thermal manager operatively connected to said microprocessor and said fan, said thermal manager ~~is~~<sup>being</sup> configured to receive the temperature indication from said temperature sensor, and said thermal manager compares the temperature indication to first and second temperature thresholds, causes the clocking frequency for said microprocessor to be reduced to provide thermal management when the temperature indication indicates that the temperature of said microprocessor exceeds the first temperature threshold, and activates said fan when the temperature indication indicates that the temperature of said microprocessor exceeds the second temperature threshold, the second temperature threshold being greater than the first temperature threshold.

*32.* A computer system as recited in claim ~~31~~<sup>51</sup>,

wherein said fan is operable in a plurality of different speeds,

wherein when the temperature indication indicates that the temperature of said microprocessor does not exceed the second temperature threshold, said fan is not activated, and

wherein when the temperature indication indicates that the temperature of said microprocessor does exceed the second temperature threshold, said fan is activated and the speed of said fan is dependent upon the extent that the temperature of said microprocessor exceeds the second temperature threshold.

~~34~~ 53. A computer system as recited in claim ~~51~~, wherein said temperature sensor is integrated into said microprocessor.

~~35~~ 54. A computer system as recited in claim ~~51~~, wherein said fan is used only after the reduction in the clocking frequency for said microprocessor does not operate to sufficiently limit the temperature of said microprocessor.

~~36~~ 55. A computer system as recited in claim ~~51~~, wherein said computer system further comprises:

an activity detector operatively connected to said microprocessor, said activity detector determines an activity level of said microprocessor, and

wherein the speed of said fan is controlled based on the temperature of said microprocessor and the activity level.

~~37~~ 56. A computer system as recited in claim ~~51~~,  
wherein said thermal manager is operatively connected to said activity detector, and

wherein when said activity detector detects that the activity level is low, said thermal manager causes the clocking frequency to be substantially reduced such that said fan need not be activated.

~~38~~ 57. A computer system as recited in claim ~~51~~, wherein said thermal controller manages the temperature of said microprocessor to advert its overheating in an energy efficient manner by avoiding the use of said fan at a first stage and instead improving thermal conditions by sacrificing some performance of said microprocessor by lowering the clocking frequency.

58. A computer system as recited in claim 57, wherein in a second stage said fan is also used to improve the thermal conditions when the lowering of the clocking frequency in the first stage is unable to stabilize the thermal conditions.

59. A computer system as recited in claim 58, wherein in the first stage a plurality of respectively lower clocking frequencies can be used to attempt to stabilize the thermal conditions.

60. A computer system as recited in claim 59, wherein in the second stage a plurality of respectively greater speeds for said fan can be used to attempt to stabilize the thermal conditions.

61. A computer system as recited in claim 58, wherein in the second stage a plurality of respectively greater speeds for said fan can be used to attempt to stabilize the thermal conditions.

62. A computer system as recited in claim 51, wherein said thermal controller minimizes the use of said fan so as to minimize power consumption.- -